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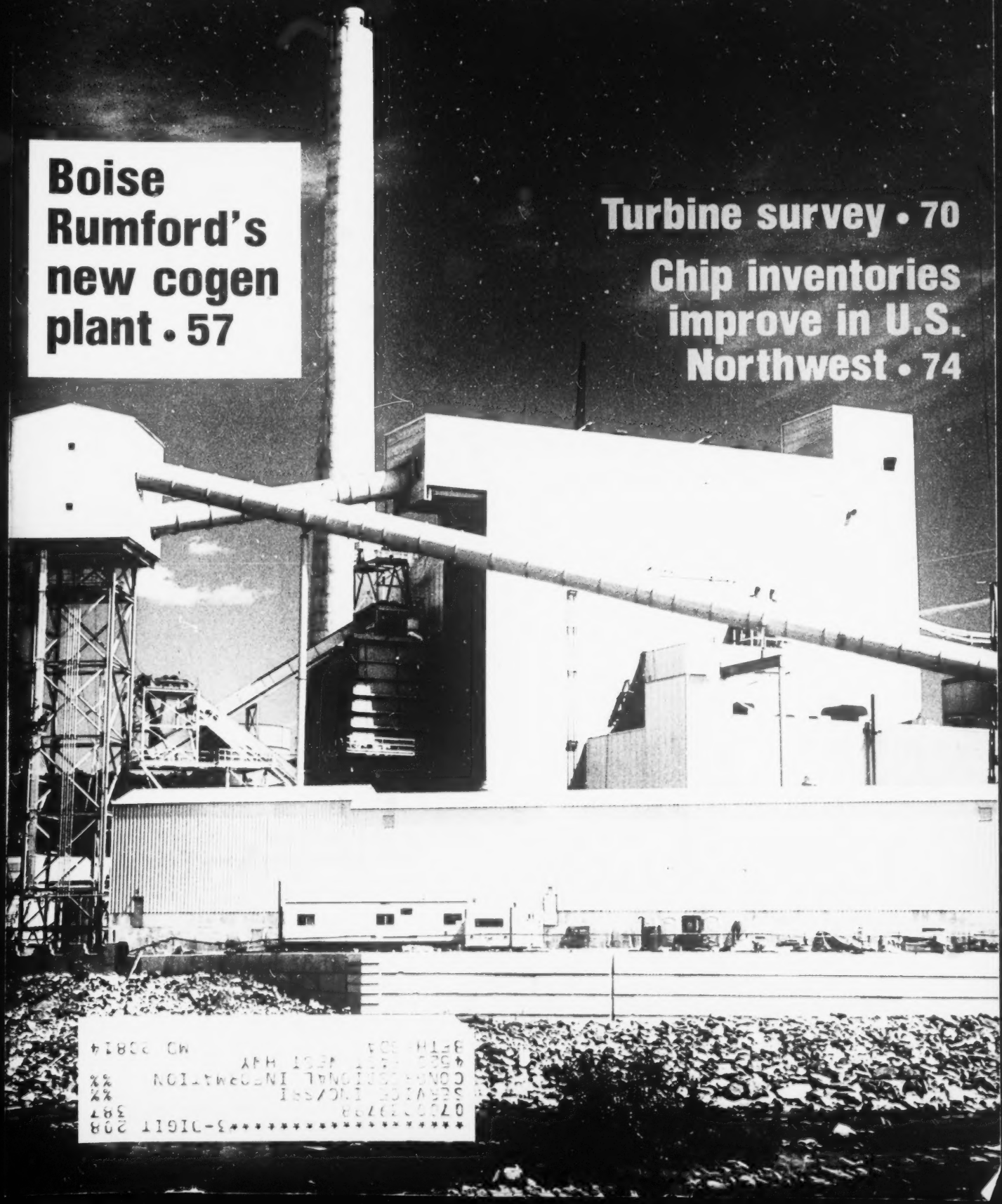
PULP & PAPER

July 1990



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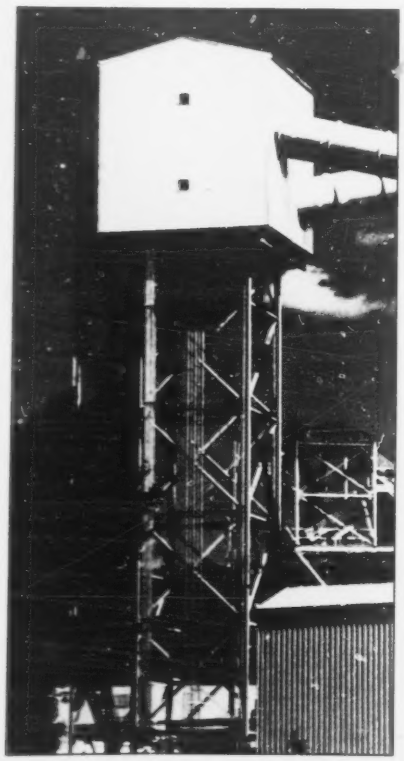

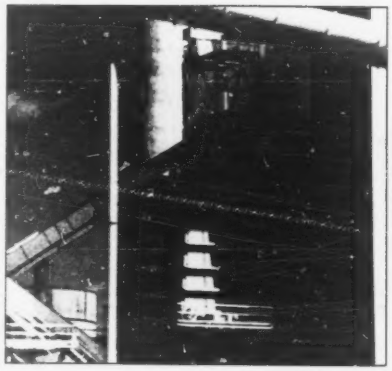

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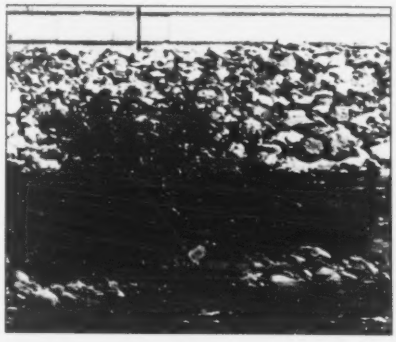

THE COVER

Rumford Cogeneration Co.'s $187-million power plant started up last month in Rumford, Maine. See story on p. 57. **(Photo courtesy of Boise Cascade.)**

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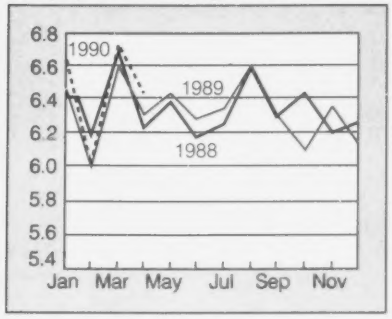
ABP

VBPA

U.S. paper and board production



U.S. production of paper and paperboard totaled 6.7 million tons in March, an increase of 1.3% over the same month last year, according to American Paper Institute data. The seasonally adjusted rate of production in the first quarter was 77.7 million tpy, 1.4% higher than the year-earlier rate. Through March, mills produced paper at a seasonally adjusted rate of 39.2 million tpy, up 2.4%, and paperboard at 38.4 million tpy, up 0.3%.

Among major grades, newsprint was responsible for most of the gains in the paper sector, reflecting the recent startup of new capacity. Uncoated groundwood continued to lead the printing and writing grades, which, overall, were up 2.8% in the first quarter. A 7.8% increase in production of containerboard for export was barely enough to offset a 0.1% decline in production for the domestic market, leading to an overall gain of 0.5% through March. The situation is similar for boxboard, with export production up 11.7% but output for domestic use up just 0.8%.

Canadian newsprint shipments totaled 825,000 metric tons in March, up 2.7% from last year, but pulp shipments dropped 11.5%, to 690,000 tons. Operating rates were 95% at newsprint mills and 88% at market pulp mills. ■

	Latest month (000 short tons)		% change from year ago	Annualized year-to-date (000 short tons)	% change from year ago
PAPER & PAPERBOARD PRODUCTION[1]					
Newsprint	Apr.	541	9.3	6,440	9.3
Uncoated groundwood (s)	Apr.	155	4.0	1,809	4.2
Coated paper (s)	Apr.	567	4.2	7,209	2.7
Uncoated free-sheet (s)	Apr.	971	7.3	11,638	2.9
Other printing/writing	Apr.	128	3.2	1,625	6.0
Total packaging and other paper (s)	Apr.	394	5.1	4,824	-2.6
Tissue	Apr.	467	3.5	5,676	1.9
Total paper	**Apr.**	**3,222**	**5.9**	**39,222**	**3.0**
Unbleached kraft paperboard	Apr.	1,627	2.4	19,694	2.2
Semichemical medium	Apr.	466	-0.4	5,613	-2.0
Bleached paperboard	Apr.	378	6.2	4,517	2.7
Recycled paperboard	Apr.	731	-0.9	8,770	-1.3
Total paperboard	**Apr.**	**3,202**	**1.7**	**38,595**	**0.8**
Total U.S. paper and paperboard output	**Apr.**	**6,425**	**3.8**	**77,817**	**1.9**
PULP, WASTEPAPER & FIBER[2]					
Total U.S. woodpulp production	Mar.	5,261	-0.9	62,914	1.1
Market pulp production	Mar.	725	-6.0	8,675	-3.0
Wastepaper consumption at paper/board mills	Mar.	1,804	11.7	20,757	5.5
Pulpwood consumption (cords)	Mar.	8,341	2.1	100,008	2.6
CONVERTED PRODUCTS STATISTICS[3]					
Corrugated box shipments (billion ft²)	Apr.	26.619	0.6	105.087[6]	0.8
Containerboard inventories at U.S. box plants and mills	Apr. 1	2,626	2.2		
INTERNATIONAL TRADE[2]					
U.S. paper imports (including products)	Mar.	1,152	2.1	13,190	3.1
Imports of Canadian newsprint	Mar.	722	2.1	8,421[6]	3.4
U.S. paper exports (including products)	Mar.	597	-1.5	6,711	6.9
Exports of unbleached kraft linerboard	Mar.	234	1.3	2,557	9.0
Exports of woodpulp	Mar.	578	-7.2	5,632	-11.3
Norscan pulp inventories[4]	Apr. 30	1,388	72.6		
Norscan pulp operating rates[4]	Apr.	85%	85%	94%	90%
CANADIAN STATISTICS[5] *(reported in metric tons)*					
Total newsprint shipments	Apr.	814	5.0	3,073[6]	0.6
Operating rates	Apr.	93%	95%	94%	97%
Inventories held by U.S. consumers	Apr. 30	1,287	-2.7		
Other paper/board shipments	Apr.	605	8.0	2,424	7.4
Woodpulp shipments (export only)	Apr.	620	-6.6	2,541	-8.7
Operating rates	Apr.	80%	91%	88%	96%

1. American Paper Institute. 2. API, Bureau of Census, American Pulpwood Assn. 3. Fibre Box Assn., Paperboard Packaging Council. 4. North American/Scandinavian paper-grade market pulp. 5. Canadian Pulp & Paper Assn. 6. Not annualized. (s) = Shipments.

Bleached paperboard: Market tightness eases but prices of SBS packaging remain firm

Grade structure: Solid bleached sulfate (SBS) is used primarily for folding carton and milk carton packaging and is produced from a furnish containing at least 80% virgin-bleached woodpulp. Other uses include cup and plate stock, food containers, miscellaneous packaging, and linerboard. Calipers range from 10 to 28 pt, in low, medium, and high density, and basis weights vary from 40 to 100 lb/1,000 ft². Most SBS is either clay coated or polyethylene coated.

Markets: Market demand for bleached paperboard grades, as measured by their 1990 capacity share, is folding boxboard, 49.2%; milk carton and food service, 41.8%; linerboard, 4.0%; and other packaging, 5.0%.

Production/capacity: Total production in 1989 increased only 10,000 tons to 4.521 million tons, which was close to the industry's effective maximum output. Exports increased by 55,000 tons to 683,000 tons, representing about 15% of production.

In 1989, producers were capacity constrained and unable to meet customer demand for all grades of SBS packaging. Some long-term relief is in sight by 1992, when Westvaco Corp. plans to start up a new 350,000-tpy SBS machine earmarked for the production of packaging grades. This will be the first new SBS machine installation since 1986.

In the short term, International Paper Co., Potlatch Corp., Georgia-Pacific Corp., and Federal Paper Board Co. will upgrade existing machines to add about 115,000 annual tons of capacity by the end of 1990, but downtime scheduled for these rebuilds will reduce available production capacity this year. Total U.S. capacity for bleached kraft paperboard is estimated to reach 5.2 million tons in 1992, according to the American Paper Institute figures.

Outlook: Demand for bleached folding carton stock weakened early this year as folding carton converting plants began to reduce their inventories in response to falling U.S. retail sales. Inventories of both materials and finished goods had jumped to 13.1 weeks of supply in the second half of 1989. Folding carton demand is expected to return to normal levels after customers have reduced their excess inventories.

Demand for paperboard liquid packaging will continue last year's strong growth trend in domestic and export markets. U.S. producers are worldwide suppliers of liquid packaging; Scandinavian producers are as well.

The demand for disposable bleached paperboard food service products should remain firm this year. Environmental concerns about plastic disposable packaging have benefitted traditional paper disposable products, such as cups, plates, trays, and food containers.

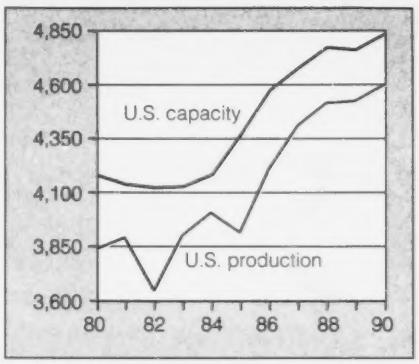
Demand and supply will remain in equilibrium this year, and industry operating rates will remain high because of major production curtailments at International Paper Co. and Federal Paper Board Co. related to machine rebuilds.

I-P was scheduled to complete the rebuild of the liquid board machine at Pine Bluff, Ark., in mid-June following a month-long shutdown. In early July, Federal is scheduled to shut down its multi-ply SBS machine at Augusta, Ga., for an extended five-month rebuild.

Prices: Producers raised prices of clay-oriented folding boxboard grades by $50/ton on Jan. 1,1989, and again last Aug. 1, raising the price of 15-pt board to between $830 and $840/ton. Prices of polyethylene-coated milk carton stock and other specialty packaging grades increased at the beginning of the year to the $1,100/ton level. Prices of coated printing bristols that are produced by several large SBS producers also increased last August to between $1,050 and $1,150/ton.

Historical prices for fully bleached, clay-coated 15-pt folding carton boxboard (rolls, $/short ton, year-end prices): 1980, $550; 1981, $625, 1982, $590/625; 1983, $590/625; 1984, $590/665; 1985, $500/590; 1986, $580/590; 1987, $635; 1988, $730; 1989, $830. ■

SUPPLY/DEMAND (000 tons)



FORECAST (000 tons)

U.S.	1988	1989	1990e
Production	4,511	4,521	4,594
Capacity[1]	4,733	4,723	4,838
Utilization rate	95.3%	95.7%	95.0%
Imports	10	20	40
Exports	628	683	751
Apparent U.S. consumption	3,893	3,858	3,883
lb/capita	31.7	31.1	31.6
GNP ratio	.97	.93	.92

e = *Pulp & Paper* 1990 estimate.
1. American Paper Institute capacity data.
2. 1,000 tons/$ billion real GNP.

TOP U.S. PRODUCERS (000 tpy)

	Annual capacity (000 short tpy)	Market share (%)
1. International Paper Co.[1]	935	19.7
2. Federal Paper Board[2]	631	13.3
3. Westvaco Corp.	620	13.1
4. Potlatch Corp.	554	11.7
5. Georgia-Pacific Corp.	360	7.6
6. Temple-Inland Inc.	357	7.5
7. Champion Corp.	247	5.2
8. James River Corp.	235	4.9
9. Gulf States Paper Corp.	230	4.8
10. Weyerhauser Co.	220	4.6
11. Gilman Paper Co.	200	4.2
12. Jeff. Smurfit/CCA Corp.	185	3.9
13. Union Camp Corp.[3]	140	N.A.

Market share of top five companies:
65.4%
Market share of top ten companies:
92.4%
Total U.S. capacity (1990):
4.838 million short tons
Estimated available 1990 capacity
4.728 million short tons

1. Will lose 50,000 tons in 1990 from downtime.
2. Will lose 60,000 tons in 1990 from downtime.
3. Includes more than 50% swing capacity.
N.A. not available.

Talks begin between Stone-Consolidated and CPU

Contract talks began May 31 between Stone Container Corp. negotiators and seven locals of the Canadian Paperworkers Union at three Stone-Consolidated newsprint and groundwood paper mills along the St. Maurice River in Quebec. In addition to seeking an 8% wage increase in both years of a two-year pact, CPU said it is pursuing job security and safety issues that were given high priority at its wage conference.

Union negotiators for mills in Shawinigan, Grand'Mère, and Trois Rivières, Que., representing 2,250 workers, will be seeking to establish an agreement with Stone that will serve as a pattern for nearly 30,000 paperworkers in eastern Canada. The union's negotiating team is headed by CPU Quebec vice president Edmond Gallant, while officials of Stone Consolidated head the company's effort. In total, the negotiations affect mills accounting for 80% of Canada's newsprint production, 40% of market pulp, and 75% of other paper and board. The union has presented all companies in its eastern jurisdiction with its agenda but will negotiate only the major items with Stone-Consolidated until an agreement is worked out, a union spokesman said. Local issues may vary slightly from the Stone agreement. There are 45 items in the CPU agenda to be addressed at the negotiating table.

Citing lost jobs due to automation, plant closures, and machine shutdowns, CPU at its convention gave top priority to job security, which it hopes to provide by an attrition principle which would mean there would be no reduction of jobs except by natural causes such as retirement or death. CPU said it will be pressing for "better language" on contracting-out and early retirement.

Another nonwage issue receiving focus from CPU is safety, and the union said its agenda contains a comprehensive program to protect its members in the use of chemicals, gases, and industrial diseases. Also in play in this year's Canadian contract talks is the Goods and Service Tax that comes into effect in 1991. The GST will tax items not presently taxed by the federal government and is predicted to add at least 1.25% to the overall inflation rate. The union officially opposed the GST but has said that it expects a wage agreement to reflect the impact the GST will have on its members.

Following the CPU wage conference, the union increased its strike relief program and also requested voluntary contributions to provide a supplement to the remittance. ■

Canadian paperworkers union contracts.

	Term	Wage increase	CPI increase	Strikes	Major issues
1978	1st year	6.9%	8.9%		Inflation, wage and price controls, reinstate COLA[1]
	2nd year	5.8			
1980	1st year	9.0	10.2	Abitibi/ 6 weeks	
	2nd year	9.5			
1981	1st year	15.0	11.4	B.C. mills/ 6 weeks	
	2nd year	13.0			
	3rd year	0.0			
1982	1st year	12.0	10.8		
	2nd year	10.0			
1984	1st year	2.5	4.4	B.C. mills/ 12 weeks	Regain wages lost during price controls, and improve pension plans
	2nd year	4.5			
	3rd year	5.0			
1987	1st year	1.8	4.4	Briefly at Consolidated-Bathurst and Great Lakes	
	2nd year	3.1			
	3rd year	4.5			
1990	CPU wants two-year pact	8.0% each year plus COLA equal to 1¢ for each 0.1 rise in CPI.	5.5-6.0% (forecast)		Job security, health and safety, and parity with the Goods and Service Tax

1. Cost of living adjustment. Source: Canadian Paperworkers Union.

KRAFT PAPER

Prices hold firm despite lower production

U.S. kraft paper producers are largely succeeding at keeping market prices firm despite lower production during the first half of the year. Prices for both bleached and unbleached grocery bag and sack paper, multiwall sack paper, and lightweight bag paper are close to the same levels as last year in the eastern U.S. Generally, 70-lb grocery sack paper prices average about $495/ton, 50-lb multiwall sack prices average about $550/ton, 30-lb lightweight bag paper prices average about $660/ton, and 30-lb bleached lightweight bag paper prices average about $800/ton. Some West Coast prices for 70-lb grocery sack paper and 30-lb lightweight kraft paper are lower than prices for comparable grades in the East.

In the U.S., production of unbleached kraft paper declined about 10%, or 94,000 tons, in the first four months of this year, according to statistics from the American Paper Institute. During the same period, Canadian shipments of kraft paper to the U.S. increased 18%, or 10,000 tons, according to the Canadian Pulp & Paper Assn. There were also some imports from Mexico during the first half of the year, but the data is not yet available. Nonetheless, the evidence is clear that total shipments of the commodity kraft paper grades had weakened, reflecting both lower demand and production curtailments.

The production curtailments resulted from some mills scheduling maintenance downtime during the past several months. International Paper Co.'s Camden, Ark., mill curtailed production for one week in April for annual maintenance, and Stone Container Corp.'s Hodge, La., mill took about one week of downtime on each of its four paper machines in May.

Stone to swing Hodge machine. Stone has shifted production on the Hodge mill's large No. 5 machine from exclusively kraft paper to partly lightweight linerboard. A spokesman said the company now plans to produce between 5,000 and 10,000 tons/month of linerboard on the machine, which becomes the industry's eighteenth swing machine producing both grades. Total swing machine production of linerboard edged up about 4% through April. ■

Balance shifts in hydrogen peroxide market

The North American hydrogen peroxide market has shown signs of easing in recent months, a welcome relief for producers and consumers alike. The change in market conditions is primarily due to the output of FMC Corp.'s Prince George, B.C., facility (70 million lb/year nameplate capacity) beginning in early May. "Although the product is still tight right now," commented Peter Lai, vice president-marketing at Interox America, the FMC startup will "ease the pain some and allow a slower [production] pace for others. This means manufacturers can have more shutdowns, schedule maintenance, and perhaps do some inventory building."

The easing of the market is also due, in part, to early success at Interox's Longview, Wash. plant, which reportedly is running better than expected and maintaining higher effective capacity (about 40 million lb/year) since startup in late 1989. Furthermore, that plant is slated for a 65-million-lb expansion (in nameplate capacity) to be completed by first-quarter 1991.

As for the coming months, producers differ on how market conditions will shake out. Most agree, however, that the market will continue to grow at a stellar pace and that new capacity (at least in the near term) will be utilized as soon as it becomes available.

The hydrogen peroxide market, fueled primarily by environmental issues and concerns, is continuing to expand rapidly in three areas: bleached mechanical pulp, chemical pulp, and paper recycling.

OPINIONS DIFFER. Ron Scheff, product manager-hydrogen peroxide for Du Pont, asserts that the FMC startup will create some overcapacity in the near term and that other anticipated startup or expansion projects should slightly outpace demand until sometime in 1993. Scheff bases his assertion on anticipated growth of about 12% to 15% through 1993 in addition to the anticipated output of announced new capacity. He feels that capacity could outpace demand, particularly during the latter part of 1991 when both Degussa (Mobile, Ala.) and Du Pont (Gibbons, Alta.) are expected to add 80 million lb each to the available supply (Table 1).

Oxychem Canada president Alain Chauvet agrees with Scheff, but their reasons differ. He adds, "By the end of 1991 or early 1992, there could be some capacity available, although only about 150 million lb, which is not that much." Chauvet forecasts light growth in the paper industry of only 8% in 1990 , 8% to 10% in 1991, and 15% in 1992. He believes growth will be primarily dictated by bleached chemi-thermomechanical pulp (BCTMP) mill startups (Table 2), some of which have been delayed or postponed.

Lai, in contrast, sees much broader growth ahead. He said, "The hydrogen peroxide market should remain balanced for the next five years, [and] all new expansions are expected to be in step with growing demand." He predicts that the paper industry will

(Continued p. 45)

Company	Location	Capacity	Date
Oxychem Canada	Becancour, Que.	22	3Q 1990
Oxychem Canada	Becancour, Que.	22	1Q 1991
Interox America	Longview, Wash.	65	1Q 1991
FMC	Prince George, B.C.	20	2Q 1991
Degussa	Mobile, Ala.	80	3Q 1991
Du Pont	Gibbons, Alta.	80	4Q 1991

TABLE 1: **Announced hydrogen peroxide capacity startups/expansions. (All capacities are nameplate, in million lb.)**

Company	Location	Startup date
Donohue Matane Inc.	Matane, Que.	1990
Slave Lake Pulp Corp. (Alberta Energy)	Slave Lake, Alta.	1991
Temcell	Temiscaming, Que.	1991
Louisiana-Pacific Corp.	Chetwynd, B.C.	1991
Millar Western Pulp Ltd.	Meadow Lake, Sask.	1992
Shinho Paper Manufacturing Co. Ltd.	Thunder Bay, Ont.	1992
Cascades Inc.	Cabano, Que.	1992
Scott Paper Ltd.	Crabtree, Que.	1992
Fibreco Pulp Inc.	Taylor, B.C.	1993

TABLE 2: **Announced BCTMP startups.**

use 300 million lb in 1990 (an increase of about 35% to 40% over the 205 to 220 million lb used in 1989) and another 35% to 50% increase (over 1990) to about 400 to 450 million lb by 1995. Lai emphasized continuing "environmental pressure in both chemical bleaching and recycling. While there is some degree of uncertainty as to where legislation will end up, both in terms of allowable effluent contaminant levels and required recycled fiber content, these areas will continue to provide opportunities," he said.

Mark Koznarek, manager-pulp and paper for FMC, agrees. "The hydrogen peroxide market probably won't ease up for some time. The new plants [coming online] in 1991 still won't affect market conditions because the market is growing in step with demand," he said. According to Koznarek, growing demand in environmental applications and recycling, coupled with timely new capacity, "will ensure orderly growth" of the market. He forecasts 20% growth in both 1990 and 1991.

Total North American demand for hydrogen peroxide in 1989, excluding internal plant use and export markets, was 510 million lb. Of this, paper industry use accounted for 205 to 220 million lb, about 40% of the market. Nameplate capacity in 1989, depending on producer, ranged from 620 to 665 million lb, while the industry's output (or effective capacity) was estimated to be between 520 and 550 million lb. However, the year-end addition of 40 million effective lb at Longview boosted annualized effective capacity as of Jan. 1, 1990, to 580 to 600 million lb. Counting Prince George capacity and the 22-million-lb expansion at Oxychem Canada's Becancour, Que., plant, capacity now stands at 660 to 735 million lb. All producers agreed that inventory adjustments for the year were close to zero. North American demand is expected to reach about 610 million lb in 1990, while paper industry demand should reach 220 to 300 million lb.

A look at upcoming activity suggests a busy schedule for producers in the next few years, especially 1991 (Table 1). In that year alone, 290 million lb of new or expansion capacity will hit the market, running the North American nameplate capacity to between 900 million and 1.025 billion lb, a 40% increase over the current nameplate capacity.

MARKET FORCES. Producers agreed with Scheff's assertions that dioxin is just the beginning of environmental concerns and that as testing technology develops, all chlorinated organic compounds will be studied and controlled, possibly forcing chlorine use out of chemical pulp bleaching altogether and even bringing chlorine dioxide under the same scrutiny as chlorine.

Lai added, "Part of the uncertainty in the paper industry markets is that there is always the possibility of alternative technology, especially with the replacement of chlorine, because the best [available] technology is not etched in stone yet." Another caveat is the uncertainty in the caustic market (especially availability) in the wake of plummeting chlorine use, since hydrogen peroxide use is usually associated with caustic.

Producers also pointed out that the mechanical pulp sector is being closely watched because of existing overcapacity, downward pressure on some mechanical grade prices, and the recycling movement. These pressures could ultimately force reduced production of bleached mechanical fiber, although the recycled market itself would provide some outlet for peroxide use.

OTHER PROMISING MARKETS. Although recycling is currently a modest market (10 to 20 million lb), most producers feel that this market will double in size in the coming years, primarily due to increased awareness and government legislation dictating the increased use of recycled fiber.

Hydrogen peroxide use is also experiencing some growth in effluent treatment, where it is typically used as a source of supplemental oxygen and also provides a convenient way to oxidize sulfides. Although this segment tends to be seasonal, with greatest use coming in spring and summer when biological activity increases, estimates put the size of this market at about 90 million lb annually. All producers think this area will grow, yet one producer said his company's approach to effluent problems calls for utilizing peroxide in the bleach plant, thereby producing cleaner effluent from the start. Some also consider peroxide, which costs $0.45 to $0.46/lb for 70% concentration, too expensive for such applications.

—*Tim Downs*

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Northwest Woodfiber Survey Contrasts Abundance, Scarcity

Inventory balance from a mix of pulpwood and sawmill/veneer plant residue is facing heavy preservationist pressure

By CHARLES S. LEWIS

The woodchip inventory in the five states of the Pacific Northwest and Inland Empire that was in balance with paper industry demand in fall 1988 went completely out of control by the end of 1989.

Pulpwood followed a similar trend. Along the Columbia River fiber shed alone, the forest products mills adjacent to this drainage saw pulpwood log inventory leap tenfold from 20-plus-million bd ft to 200-plus-million bd ft within 1989's spring-fall period (Figure 1).

There are several reasons for this explosive buildup of fiber inventory. The year 1989 presented a strong demand for all forest products. The pulp and paper market was outstanding. The logging season extended from early spring through early winter, without the usual fire interruptions and restrictions. Yet 1989 also saw long economic shadows fall over the western forest products industry. Now the timber harvest in the West is on a downtrend.

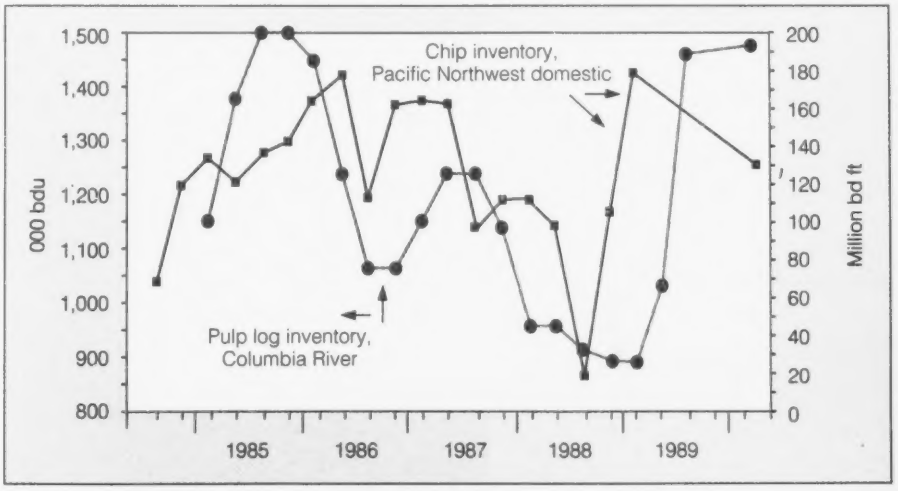
Mr. Lewis is president, Wood Fibre Northwest, Albany, Ore. 97321.

Currently, the commercial forestland base for the western U.S. is approximately 130 million acres. Most of this acreage is in the Pacific Northwest (Washington, Oregon, California) and the Inland Empire (Idaho, Montana). Two-thirds of this land is in public ownership, and the other one-third is privately owned. British Columbia has a commercial forestland base of approximately 117 million acres, 95% owned by the provincial government. All three regions participate in the Pacific Rim marketplace (Table 1).

The average timber harvest from the three regions produces approximately 35 billion bd ft (Scribner log scaling rule) annually. The Pacific Northwest contributes 50% of this total volume, 40% comes from British Columbia, and the remaining 10% is supplied by the Inland Empire.

This timber volume is the raw material base that sustains the forest products industry's manufactured products of pulpwood, lumber, veneer, shingles, poles, piling, and residues. The resultant pulpwood products and wood residues are 75% wood and 25% bark. This volume comes to 30 million bone-dry (b.d.) tons of wood (b.d. tons = 2,000 lb) and 10 million b.d. tons of bark, totaling 40 million b.d. tons.

FIGURE 1. **Pulp log and chip inventories, 1984-89.**



I can state unequivocally that British Columbia is approaching a supply/demand equilibrium, but I can't predict exactly when that will occur. The chip and pulpwood inventory dilemma evident in the Pacific Northwest and the Inland Empire leaves British Columbia relatively unscathed.

Relative to the current U.S. chip and pulpwood inventories, prices for Douglas fir in the $100/bone-dry unit (bdu) range (bdu = 2,400 lb of dry weight) are down from last year by $10 to $30/bdu delivered domestically. Prices in the $133/bdu range are down $10 to $16/bdu f.o.b. vessel export. These prices are effective during first-half 1990. Figure 2 charts export chip inventories and prices since 1985. Only when these high-volume inventories have been reduced sufficiently by price reduction and allocation will a normal price/flow pattern be attainable.

This reduction may mesh with the shortage of raw material availability resulting from public timber reductions. Preservationists have succeeded in establishing the northern spotted owl as a threatened species, thus freezing, at least temporarily, the 1990 U.S. Forest Service timber sales program in Oregon and Washington. This action comes on the release of a report by a trans-departmental government committee recommending that up to 8.5 million acres be set aside for the owl's protection if it is declared endangered. (The U.S. Fish & Wildlife Service categorizes a graduated distinction between a threatened and an endangered species.)

This action, in turn, means the removal of from 700 million to 1.7 billion bd ft from the U.S. Forest Service timber sale program in 1991. The precise deletion is to be made later this year. The Dept. of Interior's Bureau of Land Management will be required to make a similar adjustment in its 1991 sales program. Regionally, the state of California has several proposals for ballot initiatives that, if passed, would reduce the public and private timber harvest by 10% to 50%. If and when these events occur, we will see a unique case study for price stability in the woodfiber market.

TABLE 1. **Pacific Rim woodchip exports (million bdus).**

	U.S. Pacific Northwest		Canada British Columbia
1988	1.97	Softwood	0.74
	0.78	Hardwood	0.36
	2.75		**1.10**
Total		**3.85**	
	U.S.		**Canada British Columbia**
1989			
Pacific Northwest	1.98	Softwood	0.84
Pacific Northwest	0.86	Hardwood	0.59
Southeast	0.37		
	3.21		**1.43**
Total		**4.64**	

bdu (bone-dry unit) = 2,400 lb.

Despite the recent surplus in pulpwood fiber, a shortfall of raw material resulting from court appeals by various environmental groups has contributed to 46 sawmill and panel board plant closures in the past two years. Over the past decade, 109 sawmills and 56 panel plants have been permanently closed. So far, production has been maintained and the current market supplied with manufactured products by surviving mills using multiple shifts and wood transported from distant points at high cost. High timber values have presented the opportunity for local small timber owners to maximize their return for their standing timber. On the other hand, the supply of high-grade lumber that comes from old growth timber, particularly Douglas fir, will soon become scarce because of these legislative and bureaucratic edicts.

To meet these multifaceted challenges, the forest products industry must upgrade its processes to handle smaller-dia and more diverse species of raw material.

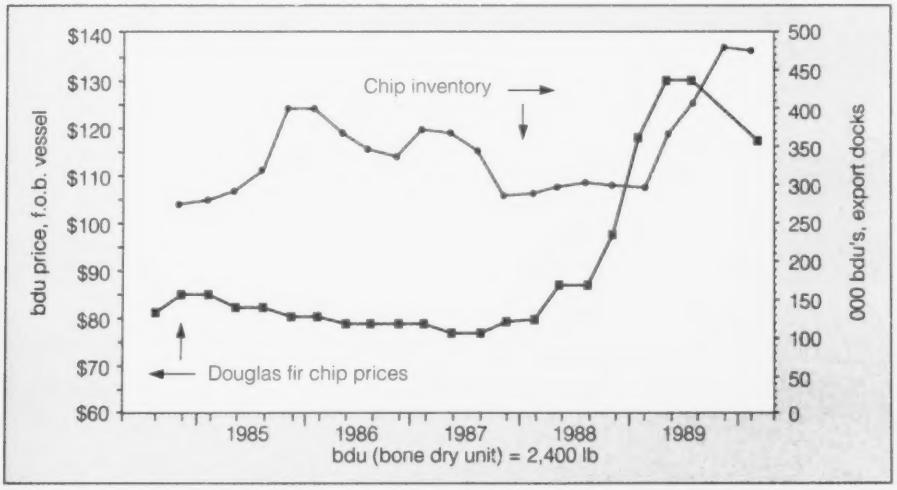
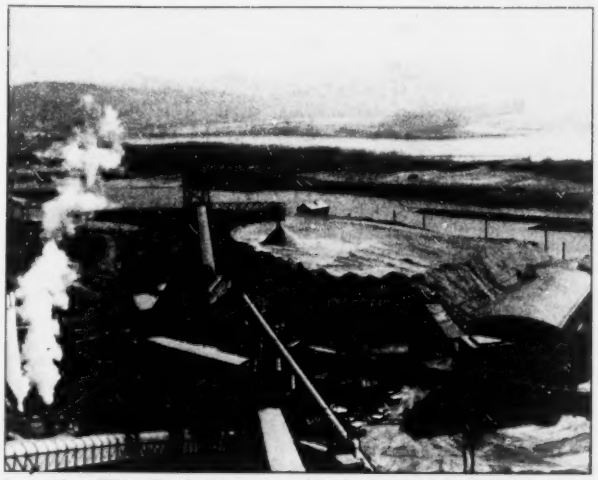


FIGURE 2. **Export chip inventories and prices.**



Longview Fibre Co. in Longview, Wash., is typical of mills in the Pacific Northwest concerned about future chip supply.

Meanwhile, Congress must stand up to preservationist pressures attempting to halt timber harvesting throughout the federal forests. Hanging in the balance is the continued production of forest products for the economy, the maintenance and preservation of employment, the survival of timber-dependent communities, the continuing flow of tax revenues to the federal level and the "in lieu" tax monies to the local county level. These factors are all predicated upon the continued harvesting and replanting of standing timber.

The pulp and paper industry has taken steps to alleviate these production problems. Throughout the West, 55 chip plants are either proposed, being built, or online at this time. For the most part, these chip plants have a direct financial or contractual relationship with a specific pulp and paper corporation. The full complement will be reached when sawmills and veneer plants can no longer supply sufficient residual material for their pulp production.

The forest products industry, whether supplied from public or private lands, has been permanently enjoined with the preservationist movement. At first glance, there is no resolution to this situation, only frustration from all quarters. The optimistic (and capitalistic) viewpoint is that the pulp and paper industry will somehow be supplied and thrive. Species of trees and other plants not now used will enter into the manufacturing picture, with grading standards adjusted to meet these changes. When the chips are down (pardon the pun), the economy will be served, no doubt at a greater cost and with a greater variance in product quality. ■

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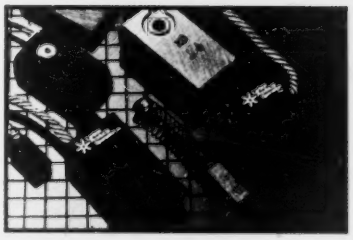

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